

**APPLICATION FOR
UNITED STATES PATENT**

in the name of

**KENNETH A. WILLIAMS, DAVID R. SLAYBACK,
MATTHEW D. GEORGE AND JEFFREY A.
STEPHENSON**

of

America Online, Inc.

for

**METHOD OF INTERFACING ON A COMPUTER
NETWORK BY VISUAL REPRESENTATION OF USERS,
METHOD OF INTERACTING AND COMPUTER
NETWORK**

Fish & Richardson P.C.
1425 K Street, N.W.
11th Floor
Washington, DC 20005-3500
Tel.: (202) 783-5070
Fax: (202) 783-2331
ATTORNEY DOCKET:
06975-221002

**METHOD OF INTERFACING ON A COMPUTER NETWORK
BY VISUAL REPRESENTATIONS OF USERS,
METHOD OF INTERACTING AND COMPUTER NETWORK**

5

Technical Field

This invention relates to interfacing on a computer network and more particularly to the display of visual representations of users on video displays of a computer network.

10

Background Art

A computer network is a plurality of computer systems interconnected by communication channels. For example, a central computer system may interconnect numerous remote computer systems. Each remote computer system can communicate with the other systems through the central computer system. Often, the communication channels are telephone lines. Thus, a computer operator at one location can access a computer operator at another location by both operators accessing a central computer system over telephone lines.

20

Computer networks are used for a variety of purposes, for example, to send messages from one point to another. They can also allow numerous people to access a database or a document. Additionally, networks can be used to play video games.

This invention provides a method of interfacing between computer systems on a network. Interfacing means simply to communicate between computer systems on

the network. This invention also provides a method of interacting between different computer systems on a network and it provides an invented computer network.

Disclosure of the Invention

5 The invented method of interfacing is used on a network having a central computer system and a plurality of remote computer systems. Each remote computer system includes a video display. The method includes the steps of creating a first visual representation of a first user on the visual display of the first computer system and a second visual representation of a second user on the visual display of the second
10 computer system. The second visual representation is then displayed on the visual display of the first computer system and the first visual representation is displayed on the video display of the second computer system.

 The invented method of interfacing can be expressed differently as creating a first visual representation of a first user on a first remote computer system, accessing
15 the central computer from the first remote computer system, selecting at least one other user who has accessed the central computer system through a second remote computer system, and inviting the other user to employ an application, where the step of inviting allows the other user to view the first visual representation on the video display of the second remote computer system.

20 The invented method, applied to video games, includes the steps of creating a first visual representation of a first player on a first remote computer system, identifying an interest and a skill level of the first player for at least one video game, indicating predetermined personal characteristics of the first player, saving the visual

representation, interest, skill levels and personal characteristics of the first player, accessing the central computer system from the first remote computer system over telephone lines, selecting a second player who has accessed the central computer system from a second remote computer system and inviting the second player to play a selected video game. The step of inviting allows the second player to access the visual representation, interest, skill levels and personal characteristics of the first player.

The invented method of interacting is used on a network having a central computer system and a plurality of remote computer systems. Each remote computer system is operated by a user and has access to at least one predetermined application program. The method includes the steps of employing one of the predetermined application programs by at least two primary users. The step of employing results in an action of the predetermined application program. A different user is then allowed to watch the action of the predetermined application program as it is employed by the primary users.

The invented computer network includes a central computer system, a plurality of remote computer systems connected to the central computer system over telephone lines, means for creating visual representations of users on the visual displays of the remote computer systems, means for sending the visual representation of a user from one remote computer system to a predetermined number of other remote computer systems, and means for running an application program between users of different remote computer systems.

Brief Description of the Drawings

Figure 1 is a block diagram of a computer network.

Figures 2 and 3 are flow charts outlining several steps of the invented method of interfacing.

Figures 4 through 7 show various displays that can be presented on the visual display of a computer system employing the invented methods.

Detailed Description and Best Mode for Carrying Out the Invention

Figure 1 shows a computer network having a central computer system 10 interconnected with several remote computer systems 12, 14, 16 and 18. The computer network is often a wide-area network and the central computer system acts as a database server or smart switch that makes connections between the appropriate remote computer systems. Each remote computer system includes a visual display such as visual display 20 associated with remote computer system 18, and each remote computer system can communicate with one or more of the other remote computer systems through the central computer system. The remote computer systems and the central computer system can be interconnected with dedicated lines or, as is often the case, by switched or dial-up telephone lines. If the remote computer systems and the central computer system are interconnected by telephone lines, then each computer system would include a modem and each remote computer system would communicate through the central computer system over the modems as is known in the art. The central computer system may include any known method of recognizing the remote computer systems.

In a typical network, the remote computer systems will be MS-DOS-based personal computers with VGA monitors running at approximately 12 MHz or greater. The invention is however applicable to all types of computer systems including Apple MacIntosh computers and Amiga computers. The central computer system can be any type of system, including a PC/AT system running under extended DOS or UNIX at 25 MHz.

The invented method of interfacing between remote computer systems can be implemented on the network discussed above. In essence, the invented method interfaces by displaying graphical representations of the users of the computer network on the various visual displays of the remote computer systems. Thus, each user of a remote computer system can see a representation of the users of the other remote computer systems. The invented method of interfacing is applicable on a network with any given number of remote computer systems and any given number of users.

From another perspective, the invented method of interfacing creates a first visual representation of a first user on a first remote computer system. It then accesses the central computer system from the first remote computer system and selects at least one other user who has accessed the central computer system from a second remote computer system. The method then allows the first user to invite the other user to employ an application, such as play a video game, where the step of inviting allows the other user to view the first visual representation on the video display of the second remote computer system. In most cases, the other user will have created a second visual

representation of the other user on the second remote computer system and the first user can view the second visual representation on the video display of the first remote computer system.

The invented interfacing method is particularly applicable on networks designed for playing video games. Specifically, a first user at one location may play a video game with a second user at a second location on a network. Alternatively, several users at different locations may play a video game together. The invented method allows the different players to see representations of and to learn of the personal interests of the different players.

Figures 2-7 illustrate a preferred video game network embodying the invented method. Specifically, Figures 2 and 3 are flow charts outlining steps of the invented method and Figures 4-7 illustrate different displays that may be shown on a video display of a remote computer system while the invented method is employed.

In the preferred video game network, a user must create a visual representation of himself or herself before playing a game. That step is illustrated by block 22 in Figure 2.

Figure 4 shows at 24 a simplified screen display shown on the video display of a first remote computer system. It includes three visual representations 26, 28 and 30 of three different people. Each one of those three people may use the first remote computer system.

Each of the visual representations 26, 28 and 30 were created by software that allows a user to select predetermined characteristics stored in memory accessible by the first remote computer system, and then combine the predetermined characteristics to

create the visual representation. In Figure 5, visual representation 26 is displayed surrounded by the names of different characteristics, such as the names identified at 32, 34 and 36. Each of the named characteristics may include a library of different images. For example, characteristic 32 is "AGE". By accessing that characteristic, a user can view
5 different faces having different ages. Similarly, a user can select different characteristics from those stored under each name. The selected characteristics can be combined to create a visual representation such as visual representation 26. Typically, the different characteristics would be stored in an electronic memory device accessible by the first remote computer system. Each predetermined characteristic may comprise a pixel
10 (picture element) pattern which can be displayed on a video display in a computer system as is known in the art. Additionally, the resulting visual representation can be named, just as visual representation 26 is name "ROG".

Each visual representation is a composite of different characteristics selected by a user. Thus, a visual representation can resemble a user or it can look completely
15 different from a user. That feature allows a user to decide what visual representation others see. Alternatively, a photograph of a user can be scanned and digitized and used as the visual representation. That process, however, requires more data to recreate the visual representation than combining different predetermined characteristics. Accordingly, the amount of data that can be transmitted over the network may dictate the way the
20 visual representation is created.

Any method of displaying and combining predetermined characteristics can be used to create the visual representation. Block 38 in Figure 4 represents software capable of creating the visual representations. When a user selects block 38, that

software is accessed. Box 40 in Figure 4 allows a user to edit or change a visual representation. Box 42 allows a user to delete a visual representation. The phrase "means for creating visual representations of users on visual displays of the remote computer system" may include software as described above.

5 After a user has created a visual representation, the user can then identify an interest level and a skill level in various video games. That step is illustrated at 44 in Figure 2.

Figure 6 illustrates a display on a video display of a remote computer system that includes visual representation 28. As explained, visual representation 28
10 shows a user of a remote computer system.

If the computer network is designed for playing video games, that person can then indicate his or her skill and interest levels in the different games available on the computer network. That is shown in Figure 6 by bar graphs 48, 50 and 52. Bar 48 shows the skill and interest of the person depicted in visual representation 28 for the
15 game bridge. Similarly, bar 50 is for the game chess and bar 52 is for the game checkers. The left end of the bars represents little skill or interest and the right end indicates great skill or interest. The positions between the ends indicate intermediate skill and interest levels. Markers, such as markers 54 and 56 can be positioned on the bar graphs to give an indication of the user skill and interest.

20 Various interests of the person identified by visual representation 28 can be shown at 57. In other words, a user of the invented method can list his or her interests and hobbies, such as shown at 57 in Figure 6. In this way, a user can

communicate personal information and characteristics to other users. This step is represented by step 58 in Figure 2.

Thus, the invented method allows for a user of a computer network to identify himself or herself by a visual representation and by communicating personal characteristics. Obviously, other means of displaying personal characteristics and skill and interest levels can be used. Additionally, the order of steps 22, 44 and 58 in Figure 2 can be changed.

After a user has created a visual representation and listed any interests, skill levels or characteristics, all the information is saved in memory accessible by the remote computer system, as represented by block 59 in Figure 2. Alternatively, the information can be saved by the central computer system.

When a user wants to play a video game or run an application on the computer network, the user first accesses the network as shown at step 60 in Figure 3. Again, the network can be accessed by any known means. The display shown in Figure 4 shows a block 61 which the user may select to access the network. Similarly, block 62 may be selected to exit the network.

When the network is accessed, a display such as shown in Figure 7 may be presented on the visual display of the first remote computer system. Figure 7 includes a listing of different people who have also accessed the network, such as "ERNA" at 64. From this screen the user can select different functions.

To play a video game, the user must first select a second player as set forth in block 66 in Figure 3. Then the user can invite the second player to play a video game as shown in block 68 in Figure 3 and as represented by block 70 in Figure 7. If

the user invites a second player to play a game, the method outlined in Figure 3 then allows the second player to access the visual representation and information of the first player, as shown at 72. In other words, the second player would see a screen displaying information about the first player similar to that shown in Figure 6.

5 Another function that can be selected from the screen shown in Figure 7 is to "LOOK" at information about others who have accessed the network, as represented by block 74 in Figure 7. This function allows a first user to access information about any other user and to see a visual representation (whether realistic or not) of any other user.

10 Another function is to allow a user to interact with other users by watching a video game or application as it is played between the other users. That feature is represented by block 76 in Figure 7. For example, an icon such as icons 78 can be positioned next to the names of those who have accessed the computer network. The icons indicate whether a person is playing a game and if so, what type of game. In
15 Figure 7, icons 78 represent chess and show that "RUDOLPH" and "HUBERT" are playing chess. By selecting block 76, a user can watch "RUDOLPH" and "HUBERT" play chess.

20 Expressed differently, the invented method of interacting employs one of the predetermined application programs such as a video game by at least two primary users, such as "RUDOLPH" and "HUBERT" in Figure 7. The method allows a different user to watch the action of the predetermined application program as it is employed by the primary users. This is accomplished by monitoring the action of the application as it is transmitted through the central computer system.

Another function allows one user of the computer network to send a message to any number of other users of the computer network, as represented by block 80 in Figure 7. Other features, such as an electronic bulletin board, also can be included.

5 In most applications, each remote computer system on the computer network would have the software required to create the visual representations, to indicate personal characteristics, to communicate with the central computer system and to run different applications programs such as computer games. That software could all be resident on one or more floppy disks or on a hard disk. The phrase "means for sending
10 the visual representation of a user from one remote computer system to a predetermined number of other remote computer systems through the central computer system" includes software capable of achieving that function, and the phrase "means for running one of the application programs between users of different remote computer systems" includes software capable of achieving that function. When each remote computer system has its
15 own independent software, each remote computer system, in essence, plays its own video game and the central computer system simply transmits the moves or plays from other remote computer systems.

As explained, the invented method of interfacing and interacting allows for point-to-point communication between different remote computer systems. In other
20 words, the invented methods and network allow for communication between any number of remote computer systems.

Industrial Applicability

The invented method of interfacing is applicable to computer networks. It is specifically applicable when users desire to see visual representations of other users. The invented method of interacting is applicable for networks where two or more users together run an application program such as a video game, and where a different user desires to watch the action of the application. The invented network is applicable to the computer industry and specifically to the video game industry. While the preferred embodiment and best mode of the invention have been disclosed, variations and changes may be made without departing from the spirit of the invention.

5